MuID Analysis Software Progress and Plans

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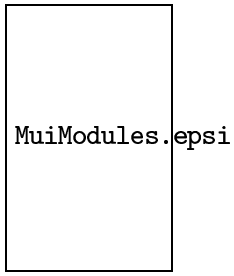
Current State of Software

- STAF version of μID code is available in CVS (under `staf/ana/mui`).
- Few internal changes compared to PISORP version.
- Code works, and results have been checked against the PISORP software.
- Documentation can be found at the URL
  `http://uther1.phy.ornl.gov/muid/muid_staf.html`

Development Plans

- Converted code is unwieldy: 25 STAF modules, 9 control tables, 60 routines total.
- We (at UT) are developing a new implementation of the μlD software.
  - A complete replacement for the converted PISORP code.
  - To be implemented in C/C++.

Data Flow



Modules Under Development

Survey and geometry utilities

Operations on processed survey and geometry data in STAF.
Coordinate transformations, getting positions of tubes, etc.
Mostly complete; should be ready for testing soon.

Readout simulation

Creates simulated raw data from PISA hits.
Base readout considers geometry only (uses geom. utils.).
Inefficiencies, cross-talk, . . . to be added later as afterburners.
Work in progress.

"Simple" road finder

Using μID hits only; no info used from μTr.
Details of algorithm to be determined.
Alternate road finders can be plugged in as they are developed.

Road-track matcher

Matches μID roads to μTr tracks.

Muon identifier

Uses discriminant analysis for identify muons, reject background from other particles.

Other needs

- Access to database of survey and alignment data.
- Refinements (afterburners) to readout simulation.
- Trigger simulation.

Software Developers

- Soren Sorensen (20% FTE)
- Kyle Pope (50% FTE)
- Others on the μID team, as time permits.